Remarks

The April 24, 2008 Official Action and the references cited therein have been carefully reviewed. In view of the amendments presented herewith and the following remarks, favorable reconsideration and allowance of this application are respectfully requested.

At the outset, Applicants note that the Examiner has deemed the restriction requirement proper and made it final. Accordingly, claims 1, 2, 6, 7, and 41-43 are currently under examination and claims 3-5, 8-13, 15-40 and 44-46 have been withdrawn from consideration.

As another preliminary matter, the Examiner has objected to the specification for containing a hyperlink. This link has been amended such that it is no longer browser executable, thereby obviating this ground of rejection.

At page 3 of the Official Action, the Examiner has rejected claims 1, 2, 6, and 41-43 under 35 U.S.C. §112, first paragraph as allegedly failing to comply with the written description requirement.

The Examiner has also rejected claims 1, 2, 6, 7 and 41-43 under 35 U.S.C. §102(b) as allegedly anticipated by Meij et al. as evidenced by Dukers et al.

Claims 1, 2, 6, 7, and 41-43 stand rejected under 35 U.S.C. §102(e) as allegedly anticipated by WO 93/048337 as evidenced by Dukers et al.

The Examiner has also rejected claims 1, 2, 6, 7, and 41-43 as allegedly anticipated by the disclosure in US Patent 6,642,008 as evidenced by Dukers et al.

Applicants respectfully submit that the claims as presently amended are in condition for allowance. Each of the above-noted objections and rejections under 35 U.S.C. §112, first paragraph, and §102 is, therefore, respectfully traversed.

THE CLAIMS AS AMENDED FULLY SATISFY THE WRITTEN DESCRIPTION REQUIREMENTS OF 35 U.S.C.§112, FIRST PARAGRAPH

At page 4 of the Official Action, the Examiner asserts that the subject matter encompassed by claims 1, 2, 6, 7, and 41-43 was not described in the specification in such as way as to demonstrate that Applicants were in possession of the invention at the time the application was filed. Applicants respectfully disagree with the Examiner. However, in order to further clarify the subject matter encompassed by the claims, claims 1 and 2 have been cancelled and new claims 47-50 added. Claims 6, 7, 41 and 42 have been amended to depend from new claim 47. Claim 47 clearly recites that the tolergenic peptide sequence is either EBV encoded LMP1 or EBV encoded LMP2. Support for the new claims can be found throughout the application. See for example page 10, lines 18 to 26 of the PCT publication. The individual is now specified to have been previously infected by EBV; it is stated in the cited passage, and also at page 5, lines 24-27, that this is what is meant by the term "seropositive" as used in original claim 1. It also includes the amendment to the definition of the tolerogenic peptides (*"EBV-encoded LMP1 protein or EBV-encoded LMP2 protein"*). Support for the target antigen and tolerogenic peptide sequence being different can be found throughout the specification and particularly at page 36, lines 16-24, wherein three different target antigens were tested alone and in combination with LMP-1 derived peptide.

Claims 48 to 50 provide more detail about the condition to be treated. Claim 48 has basis at page 12, lines 16 to 17, claim 49, at page 12, lines 16 to 19, and page 13, lines 5-6, and claim 50, at page 13, lines 12 to 15.

In view of the foregoing amendment, it is clear that Applicants were in possession of the invention at the time the application was filed. Accordingly, the rejection of the claims as amended under 35 U.S.C. §112, first paragraph is inappropriate and should be withdrawn.

THE CLAIMS AS AMENDED ARE NOVEL OVER THE PRIOR ART CITED BY THE EXAMINER

In order to constitute evidence of lack of novelty under 35 U.S.C. §102, a prior art reference must identically disclose each and every element of the rejected claim. In view of the foregoing amendments, it is clear that Applicants method differs from the methods disclosed in the prior art.

Meij et al. describe generating monoclonal antibodies to beta-gal-LMP1 fusion proteins in mice. The Examiner argues that the mice can be considered seropositive for EBV since they make antibodies to the protein. However, the term "seropositive" is used in the present application to mean "previously infected with EBV" (see above), and EBV does not infect mice. Even if this is ignored, the claims require that the subject is seropositive for EBV at the time of administration. In Meij, the mice can only be regarded as seropositive after administration, once they have generated an antibody response.

WO03/048337 describes administering epitope-tagged LMP proteins therapeutically (para. 00130, 00131 on page 36). This document proposes two separate therapies. The first is to immunize seronegative individuals with LMP proteins to provide protective immunity (e.g. paras 007, 0017). As in Meij, and in contrast to the presently claimed methods, the subject is not seropositive at the time of administration. The second proposed therapy is administration of antibodies against LMP proteins to individuals with EBV-induced malignancies (e.g. para. 0010). Although the subjects for this second therapy can be considered seropositive for EBV at the time of therapy, they are not given LMP protein, with or without any other target antigen. There is no suggestion in this document to give LMP1 protein to an individual who is already infected with EBV in a method which is effective to induce a desired immune response to a target antigen of interest. Claim 47 also requires the target antigen and the tolerogenic peptide sequence be different. In view of the introduction of new

claim 47, the objection is moot anyway. Claim 47 explicitly specifies that the subject has previously been infected by EBV, removing any possible ambiguity concerning the term "seropositive" with regard to Meij. Furthermore, claim 47 is directed to prophylaxis or treatment of a disease or condition mediated by an immune response against the target antigen. Neither Meij or WO03/048337 deal with any such condition. In both documents, the subjects are instead being encouraged to mount an immune response against EBV proteins. The "antigenic tag" referred to at page 36 in WO03/048337 is included to "assist in its purification and in orienting the protein on a solid surface". This reference is absolutely silent regarding a method or prophylaxis or treatment of a disease condition mediated by an immune response against a target antigen in an individual previously infected with EBV comprising administration of a target antigen and a tolergenic peptide sequence. It is a well-settled premise in patent law that an ambiguous reference cannot support an anticipation rejection.

The examiner has also raised novelty objections over US 6,642,008 ('008). Again, they are moot in view of new claim 47.

'008 describes use of LMP proteins (particularly LMP2A) in vaccines for treating EBV-associated malignancies. The LMP2A protein (or peptide fragments) may be fused to heterologous proteins to increase immunogenicity (col. 15, lines 32-49).

The LMP proteins and fusions can be given to individuals who already have latent EBV infection (col. 7 line 26-28). However, as in WO03/048337, the recipients are being treated, either therapeutically or prophylactically, for the consequences of EBV infection. The new claims are specifically directed to prophylaxis or treatment of a disease or condition mediated by an immune response against a target antigen, such as an autoimmune disease, allergy, etc.. This is very different from the conditions dealt with in '008. Thus '008 contains no disclosure of administration of a tolerogenic

peptide sequence from an EBV-encoded LMP protein, in combination with a target antigen, to an individual suffering from a disease or condition mediated by an immune response against that target antigen.

In view of all the foregoing, the §102 rejections of the claims as amended based on these references are no longer tenable and should be withdrawn.

CONCLUSION

No new matter has been introduced into this application by reason of any of the amendments presented herewith. In view of the present claim amendments, and the foregoing remarks, it is respectfully urged that the rejections set forth in the April 24, 2008 Official Action be withdrawn and that this application be passed to issue. In the event the Examiner is not persuaded as to the allowability of any claim, and it appears that any outstanding issues may be resolved through a telephone interview, the Examiner is requested to telephone the undersigned attorney at the phone number given below.

Respectfully submitted,
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